De-worming horses: improving compliance by implementing targeted plans

Author: David Rendle

Categories: Equine, Vets

Date: March 6, 2017

ABSTRACT

Questionnaire surveys have indicated most horse owners value the opinion of their vets when it comes to worming, but few actually use them as their primary source of advice. This article discusses the implementation of targeted worming plans and the means by which compliance can be improved.

De-worming is something most horse owners think about on a regular basis, and the subject, therefore, provides an opportunity to maintain contact with them for the common good and the good of the practice.

Why bother?

Figure 1. Much of the work implementing targeted worming plans can be performed by
non-vets within the practice. However, to maintain faith in the programme and, hence, compliance, it is essential the advice given by all members of the practice, and particularly the vets, is consistent.

In addition to providing tangible financial benefits for the practice, involvement in targeted worming offers an opportunity for regular interaction with clients, either in person or via social media.

Equine anthelmintic sales in the UK are worth approximately £13 million, and less than 10% of this goes through veterinary practices. Sales equate to £850 per vet – a figure that could increase to £8,500 per vet if all sales were made through veterinary practices.

This potential should make the effort of organising de-worming practices worthwhile – especially when the additional value of faecal worm egg counts (FWECs) is taken into consideration.

The level of understanding of anthelmintic use among horse owners has been demonstrated to be poor, even among those who are regularly performing FWECs. The advice horse owners obtain from other sources is not always reliable, they frequently turn to other horse owners or yard owners who have no qualifications and, even when they refer to SQPs, the advice received may not be in line with best practice.

Incorporation of de-worming advice, testing and treatment in annual health care or preventive medicine packages provides an opportunity for practices to promote and benefit from a wider range of services than de-worming alone.

De-worming programmes may have the additional indirect benefits of introducing new clients, and facilitating discussion and introduction of other preventive medicine measures, such as vaccination.

**Devising a strategy**

Numerous approaches to packages of FWECs are available, with or without anthelmintics. The greatest challenge in all of them is maintaining owner compliance. Many owners start with the best of intentions, but, without reminders, frequently lose their way.

It is, therefore, advantageous to obtain a financial commitment at the start of any programme to ensure it is seen through to the end. It is logical to provide plans on an annual basis. Worm egg counts should be performed through the grazing season when levels of excretion, pasture contamination and, hence, infection will be higher.

Timings are weather-dependent, but worm egg counts are typically performed from February to October. The frequency of worm egg counts depends on level of risk, which will, in turn, depend on the population, stocking density and management practices.
The interval between FWECs will also be influenced by the need for anthelmintics, as no value exists in performing a worm egg count within the egg reappearance period for the most recently used drug. From a practical perspective, it can be challenging to get four worm egg counts performed within the grazing season, as owners rarely perform them exactly when asked.

Knock-on delays from one FWEC to the next can result in the final one of the year being missed or being performed when a strategic dose of larvicidal/cestodocidal anthelmintic is being administered anyway. The use of three worm egg counts in a season may, therefore, prove more practical – more can always be added should a need exist.

Targeted worming strategies work best if all horses in a group are managed in the same manner. Attempts to minimise the use of anthelmintics are undermined if some horses within the group continue to shed high numbers of nematode eggs. Logistically, it is far easier for all involved if every horse is on the same worming plan, faeces are collected at the same time, results are reported collectively, the same cut-off is used and consistent advice is given.

Having a single point of contact for each yard or group of horses makes the process far more straightforward for the veterinary practice. For the yard owner, potential advantages exist if he or she retains some of the financial savings made by implementing a strategy of targeted worming for the horses on his or her yard.

Most of the work associated with organising de-worming plans and de-wormer sales can be performed by non-vets within the practice (Figure 1). The administrative burden of running targeted worming programmes can be reduced by use of internet-based technologies, and this also provides a further opportunity to engage clients with a practice’s website and social media platforms.

Web-based planners, some from animal health companies, have been available for horse owners to use for a number of years, but some can also be set up via practice websites to provide a means of displaying and storing FWEC data where it can be seen by both the practice and its clients.

Having a member of support staff take responsibility for a targeted worming plan (reporting results, chasing overdue worm egg count samples or posting on social media) is likely to result in it running more smoothly and higher levels of client satisfaction – and, therefore, compliance.

**Encouraging uptake**

In addition to the obvious benefit of reducing the risk of anthelmintic resistance on a property with the long-term implications this may have, direct financial benefits can be gained by horse owners adopting targeted worming strategies. In 2013, a comparative analysis was published that assessed the financial impact of applying targeted anthelmintic treatments across 16 yards in the UK containing 368 horses².
Horses were either treated with two doses of moxidectin and two doses of moxidectin-praziquantel combination per annum, or were treated in a targeted manner. The targeted programme included three FWEC in February/March, June/July and September/October, in which all horses with a FWEC greater than 200 epg were treated with ivermectin or pyrantel.

**Figure 2.** Implementing targeted worming programmes should result in financial savings on all yards, but the amount saved will vary according to the age of the horses and a number of other factors.

All horses were then treated with moxidectin/praziquantel in December. All horses in the targeted group also had a FWEC reduction test performed to assess anthelmintic efficacy. Every yard made a saving, which ranged from £57 to £568. On average, this was a saving of £13 per horse. This may not be a massive difference, but it provides valuable evidence to overcome owners’ primary objection to engage with targeted worming programmes – that it will end up costing them more (Figure 2).

**Variables**

A host of variables will affect the economics of implementing targeted worming programmes. These are the horses’ age, the chosen cut-off for treatment, and the cost of the anthelmintics and FWECs. Some of these factors were investigated in a French herd of ponies, in which a FWEC was performed across a period of four years and the resulting data was modelled to assess the impact of different variables on overall costs of targeted worming³.

Some major differences from the UK were seen, with both FWECs and anthelmintics considerably more expensive in France. Even when the time taken to collect faecal samples was taken into consideration and a large number of immature horses with higher burdens were present in the population, targeted worming was cost-effective when FWECs cost €5 (£4.30) or less.
In line with previous studies, anthelmintic use reduced by 78% when the targeted strategy was adopted. Salle et al.3 also looked at the impact of pooling faecal samples to try to further reduce the cost of targeted worming.

Costs were reduced, but false-negative results (individuals with high egg counts being missed) were common, compromising the effectiveness of the targeted approach and leaving some animals with high burdens untreated. This was a concern in a client-owned population where the health of individual animals has to remain paramount.

**Alternatives**

Parasite-associated disease is common and it is the author’s impression the incidence of larval cyathostominosis is increasing. Disease occurs frequently in horses reported to have received anthelmintics, whether because the timing of their administration is inappropriate or because anthelmintic resistance is present.

By signing up to a veterinary-targeted worming plan, owners should be reassured their horses are at lower risk of parasite-associated disease, provided they adhere to the advice given.

Owners who are responsible for other people’s horses can derive additional peace of mind from the fact a veterinary practice is responsible for ensuring they are complying with best practice and they will not be left facing the consequences should parasite-associated disease develop under their care.

Experience from other species indicates, once present, anthelmintic resistance cannot be reversed. Development of resistance on a property narrows the classes of anthelmintics that can be used thereafter, further increasing selection pressure against the remaining classes. Properties affected by anthelmintic resistance may, therefore, face increased costs of de-worming, as well as damage to their reputation.

The potential for adverse environmental effects to occur as a consequence of using anthelmintics, particularly macrocyclic lactones, is disputed, but these drugs can be toxic to insects and aquatic organisms.

**Conclusions**

Owners should be persuaded they stand to make financial savings by adopting targeted worming strategies. Additional benefits include protecting the yard against the development of anthelmintic resistance, reducing risk of parasite-associated disease, reducing risks to insect and aquatic life – and the opportunity for more contact with their veterinary surgeon.

**References**
